### BUILDING CONSISTENCY

August 1, 2017

## <u>Agenda</u>

- Welcome, Housekeeping & Customer Service
- Reminders -
  - Schedule for Building Consistency Meetings
    - Commercial 1<sup>st</sup> Tuesday; Residential 1<sup>st</sup> Wednesday
  - Monthly Deadline for Submission of Items
- Training Opportunities
- Commercial Consistency Items
- Training Session CS3708 Lateral Resistance and Design,
   Trina Agnello, PE

# Can you identify these people?



Do you know these people?



Dena Diorio, County Manager & Ebenezer Gujjarlapudi, LUESA Director

#### **Current Topics**

#### Limited time only, Free 2012 NC Code Downloads Available

The Building Code Council and the NC Department of Insurance have negotiated for and achieved funding from the NC General Assembly for the offering of a free (free to the user) downloads of the 2012, 2014 and 2015 NC Building Codes. These codes are the fully downloadable and printable for a limited time courtesy of the Department of Insurance. The link to the codes is:

#### https://codes.iccsafe.org/public/collections/nc

The version has the following benefits:

- Fully Downloadable, searchable, printable
- Contains all of the Building Code Council approved amendments from 2012 2017 inserted directly into document
- Capable of using electronic sticky notes and highlights when downloaded.

# FY 2018 Building Consistency Meetings

#### **Commercial**

- Sep 5
- Oct 3
- Nov 7
- Dec 5 Product Fair
- Jan 2
- Feb 6
- Mar 6
- Apr 3
- May 1
- Jun 5

#### **Residential**

- Aug 2
- Sep 6
- Oct 11 date change
- Nov 1
- Dec 6 Product Fair
- Jan 3
- Feb 7
- Mar 7
- Apr 4
- May 2
- Jun 6

# Deadline for submission of building consistency items – $3^{rd}$ Wed of each Month



• Items can be submitted by email <u>jeff.vernon@mecklenburgcountync.gov</u>

• or online:

http://charmeck.org/mecklenburg/county/L UESA/CodeEnforcement/Tools/Forms/Page s/ConsisTopicSubmit.aspx

 or by contacting any of the Building Consistency Team members

## CE / ISO Opportunities in FY 2018

Consistency meetings for each trade:

Commercial Building – 1<sup>st</sup> Tuesday Residential Building – 1<sup>st</sup> Wednesday Electrical – 2<sup>nd</sup> Wednesday Mechanical – Last Tuesday of the month Plumbing – Last Wednesday of the month

# Training Topics for Future Consistency Mtgs

#### UPCOMING TOPICS INCLUDE:

SEISMIC STRUCTURAL DESIGN FIREBLOCKING, DRAFTSTOPPING, FIRESTOPPING & JOINT SYSTEMS MEANS OF EGRESS 2018 CODE CHANGES OTHER SUGGESTIONS?

## Building Code Qualification Classes – FY 18

July 21 – 23; Aug 5 & 6 – Level III

Sep 22 – 24; Oct 7 & 8 – Level II

Nov 17 - 19; Dec 1 - 3 - Level I

Feb 10 - 12; 24 & 25 - Level III

Mar 23 – 25; Apr 7 & 8 – Level II

May 4 - 6; 18 - 20 - Level I

### COMMERCIAL CONSISTENCY

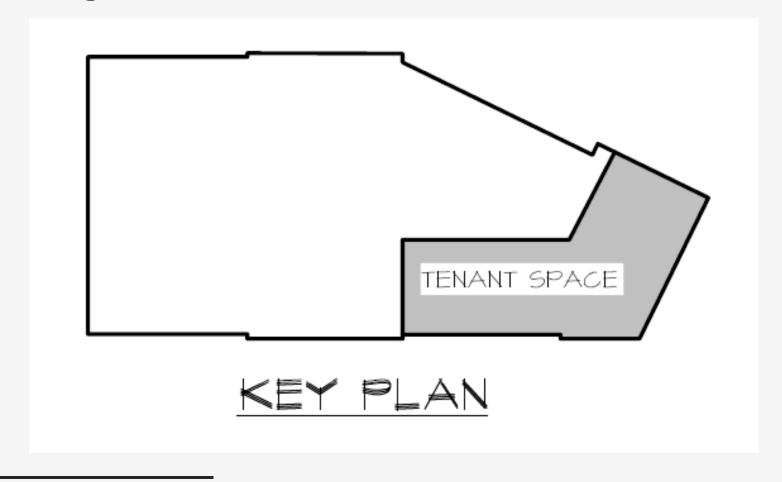
August 1, 2017

# Open Items

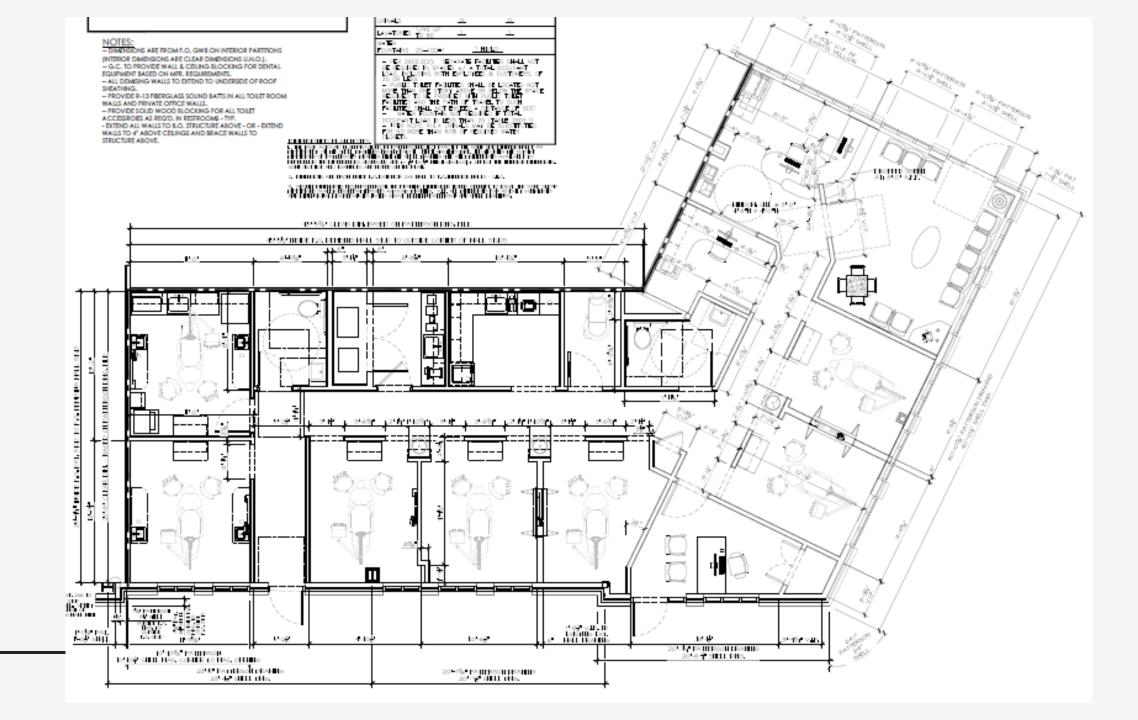
None

## Unresolved Issues / Clarifications

Corridor Rating - 1018 footnote f. what does it mean???



g. <mark>Basic Buildi</mark>	<mark>ng Data</mark> ( <mark>Requir</mark> e	ed information for all pr	ojects)				
Construction Type		= -	III-A IV-HT V-A				
(check all that app			□ III-B □ V-B				
Sprinklers: (Section	n 903) ⊠ No ∐ Pau	tial 🗌 Yes 🔝 NFPA 13-07	☐ NFPA 13R-07 ☐ NFPA 13D-07				
Standpipes: (Section	on 905) 🛛 No 🔲 Ye	s Class 🗌 I 🔲 II 📋	III Wet Dry NFPA 14-07				
Fire District: <a href="http://charmeck.org/city/charlotte/Fire/Pages/default.aspx">http://charmeck.org/city/charlotte/Fire/Pages/default.aspx</a> \Bo \tag{Yes (Primary) (Appendix D)}							
Flood Hazard Area: (Appendix G) No Yes							
Building Height: (feet) 21'-3" (Table 503) Stories:1							
Gross Building Ar	ea:						
FLOOR	EXISTING (SQ FT)	NEW (SQ FT) ALT/RE	SUB-TOTAL				
6 <sup>th</sup> Floor		•					
5 <sup>th</sup> Floor							
4th Floor							
3 <sup>rd</sup> Floor			•				
2 <sup>nd</sup> Floor							
Mezzanine							
1st Floor	9,909 sf	N.A. Up-fit: 2,192					
Basement							
TOTAL	9,909 sf	N.A. Up-fit: 2,192					



#### TABLE 1018.1 CORRIDOR FIRE-RESISTANCE RATING<sup>®</sup>

		REQUIRED FIRE-RESISTANCE RATING (hours)	
OCCUPANCY	OCCUPANT LOAD SERVED BY CORRIDOR	Without sprinkler system	With sprinkler system <sup>c</sup>
H-1, H-2, H-3	All	Not Permitted	1
H-4, H-5	Greater than 30	Not Permitted	1
$A, B^f, E^d, F, M, S, U$	Greater than 30	1	0
R	Greater than 10	Not Permitted	0.5
I-2a, I-4	All	Not Permitted	0
I-1, I-3	All	Not Permitted	1 <sup>b</sup>

- a. For requirements for occupancies in Group I-2, see Sections 407.2 and 407.3.
- b. For a reduction in the fire-resistance rating for occupancies in Group I-3, see Section 408.8.
- c. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2 where allowed.
- d. Adult and child day care facilities without automatic sprinkler systems shall have 1-hour fire-resistance-rated corridors regardless of occupant load.
- e. For requirements for residential care facilities, see Section 425.
- f. Exit access corridors are not required to be rated on any single tenant floor or in any single tenant space, when 1-hour fire-resistance-rated tenant demising walls are provided between all tenant spaces and 1-hour fire-resistance-rated floor/ceiling assemblies are provided in multistory buildings.

If there are no sprinklers, corridors in a B occupancy can be non-rated when there are 1 hour rated separations.

#### 

	OCCUPANT	REQUIRED FIRE-RESISTANCE RATING (hours)	
OCCUPANCY	LOAD SERVED BY CORRIDOR	Without sprinkler system	With sprinkler system <sup>C</sup>
H-1, H-2, H-3	All	Not Permitted	1
H-4, H-5	Greater than 30	Not Permitted	1
A, B <mark>l.i</mark> , E <mark>d.a</mark> , F, M, S <mark>i</mark> , U	Greater than 30	1	0
R <u>he</u>	Greater than 10	Not Permitted	0.5
I-2 <sup>a</sup> , I-4	All	Not Permitted	0
I-1 <mark>h</mark> , I-3	All	Not Permitted	1 <sup>b</sup>

- a. For requirements for occupancies in Group I-2, see Sections 407.2 and 407.3.
- b. For a reduction in the *fire-resistance rating* for occupancies in Group I-3, see Section 408.8.
- c. Buildings equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1 or 903.3.1.2 where allowed.
- d. Adult and child day care facilities without automatic sprinkler systems shall have 1-hour fire-resistance-rated corridors regardless of occupant load.
- e. For residential care facilities requirements see Section 428.
- f. Exit access corridors are not required to be rated on any single tenant floor or in any single tenant space, if 1-hour fire-resistance-rated floor/ceiling assemblies are provided in multistory buildings and fire partitions are provided between other tenant spaces on the same floor. The structure supporting such floor/ceiling assemblies and fire partitions is not required to be rated in Types IIB, IIB and VB construction.

# COMMERCIAL CONSISTENCY ITEMS August 1, 2017

# New Commercial Consistency Items for August 1, 2017

**Q:** Does the percentage of allowable openings increase as the fire separation distance increases?

**Q:** What are the different methods to get code compliance in the 2015 NCEBC?

**Q:** Are historic buildings exempt from the 10% rule in an Alt Level 3?

Q: Does MCCE accept film on glazing in place of tempering?

**Q:** What are the most critical parts of an Appendix B?

**Q:** How is the hardware configured on accessible self-storage units?

**Q:** Two-way communication – review Laurel's statement that they must be hands-free.

# New Commercial Consistency Items for August 1, 2017

**Q:** What type of construction is required for stairs through a podium vs stairs on a podium?

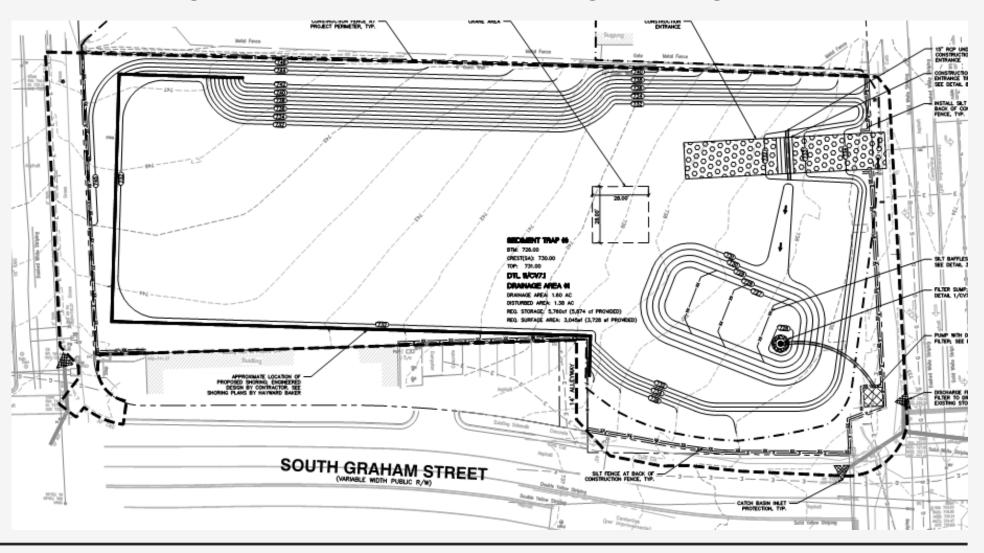
**Q:** What is the difference between furred out construction and set out construction?

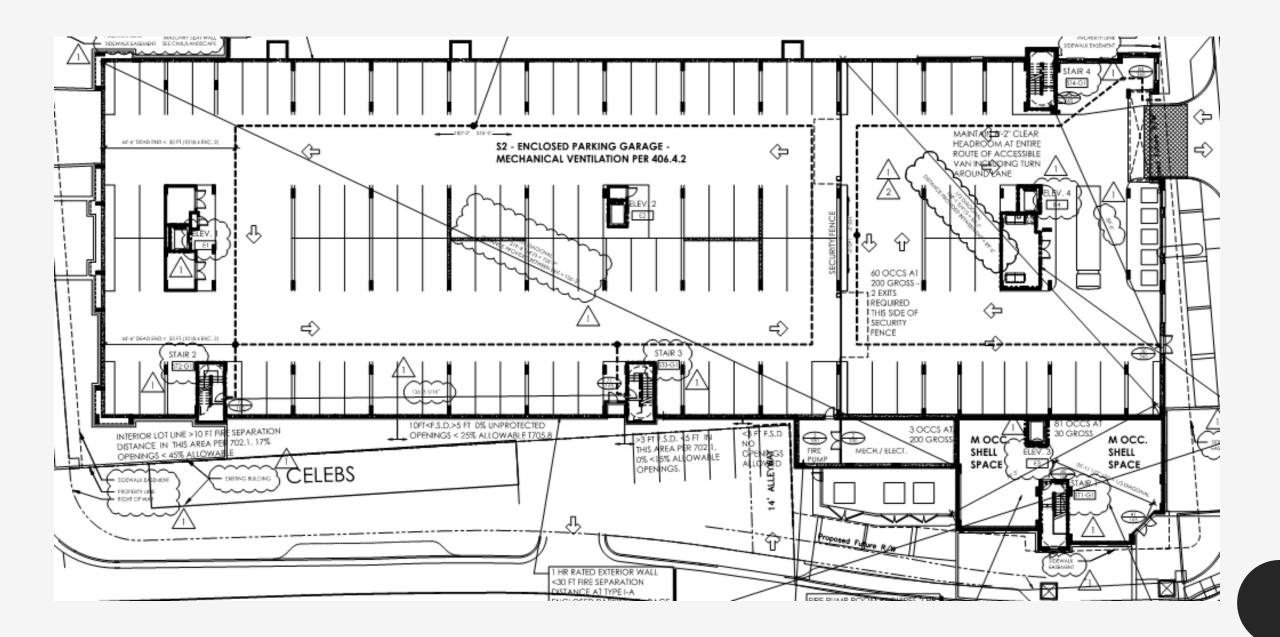
**Q:** New Simpson hangers for Type III construction.

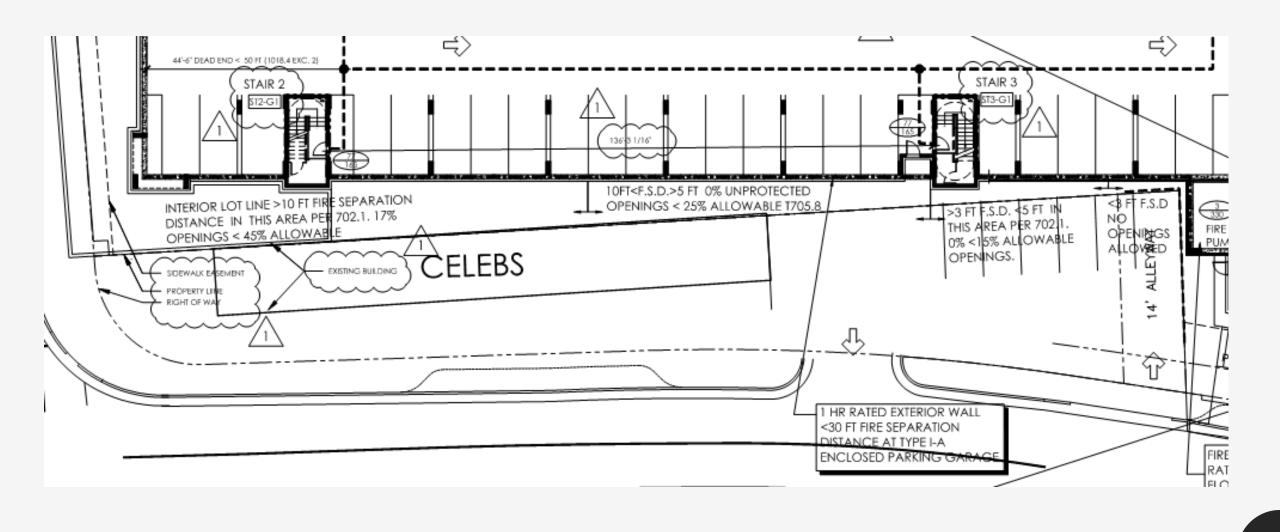
**Q:** Can an Exit Passageway use the exceptions to Section 1027.1 to allow egress on the level of exit discharge?

**Q:** Can we disapprove an Engineer's letter?

# Q: Does the percentage of allowable openings increase as the fire separation distance of a wall face increases?







A: Yes, the percentage of allowable openings can be increased where the fire separation distance is increased.

# Q: What are the different methods used to get code compliance in the <u>NCEBC</u>?

(301.1.1) PRESCRIPTIVE (CH. 4)

(301.1.2) WORK AREA METHOD (CH. 5–13)

(301.1.3) PERFORMANCE (CH. 14)

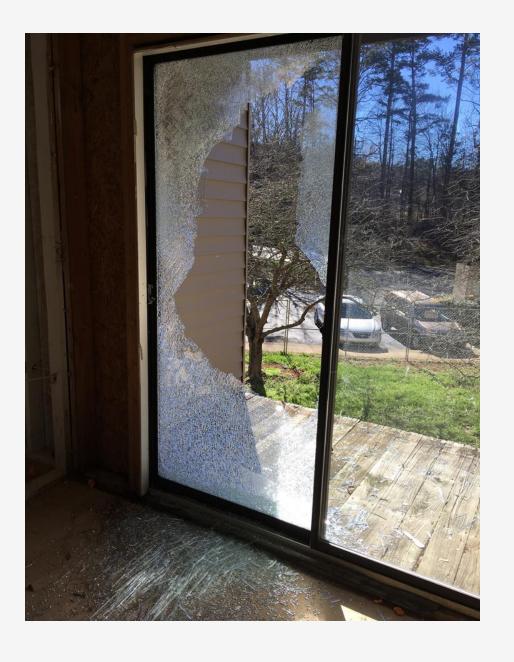
# Q: The NCEBC requires 10% of construction cost to be put towards Energy when doing an Alt level 3 but the NCECC says historic buildings are exempt from Energy requirements so which is correct?

The 2015 NC Existing Building Code (2015 NCEBC), section 908.1 directs to the 2012 NCECC for requirements. Section 908.1.1 was added as a modification of section 908.1 allowing lesser requirements than would have otherwise been allowed by the 2012 NCECC for conversion of unconditioned space to conditioned space. As the 2012 NCECC exempts historic buildings entirely, I would opine that section 908.1.1 of the 2015 NCEBC would not be enforced as a requirement as historic buildings are exempt from the 2012 NCECC per section 101.4.2 of the 2012 NCECC.

Billy G. Hinton, Jr.,PE
Chief Energy Conservation Code Consultant
Code Services Section
NC Department of Insurance

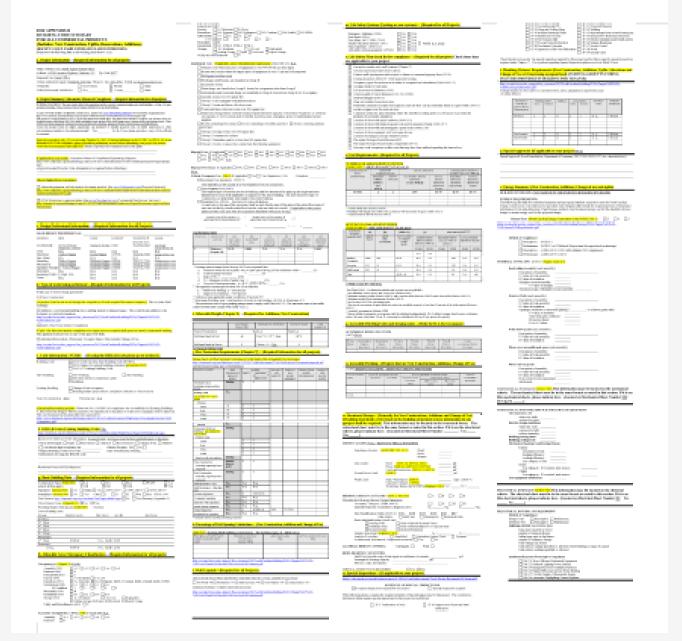
Q: Do we (MCCE)
accept film in place of
tempered safety
glazing?





A: No. The film is not permanent and does not prevent the glass from breaking into shards.

# Q:What are the most critical parts of the Appendix B?



#### Q: How is the hardware configured on accessible selfstorage units?

The accessible units, whether in the existing or the new building, are required to have automatic opening doors with door openers mounted with accessible reach ranges per ANSI 308. The door openers shall be provided with battery back-up in the event of loss of power. An alternate to the battery back-up would be to provide a minimum 3'-0" door from each unit in addition to the automatic opening door.

Laurel Wright, Accessibility Code Consultant

# Two-way communication – Review Laurel's statement that they must be hands free.

There is no specific definition of 'two-way communication' in the either Building Code or in the NC Fire Code. What there is, is a consistent, common use of the phrase 'two-way communication' in multiple locations in both code volumes. Whenever a single term is used, the intent is that it be defined in a consistent manner.

Two-way communication systems are required for both areas of refuge (NCBC 1007.6.3) and elevator landings (1007.8). If a different type of two-way communication device were permitted at one location as compared to the other, the reference terminology would have been different also.

Therefore, since the two-way communication device at an area of refuge is required to be hands-free, the one required at the elevator landing is also. (continued)



FIGURE C708
EXAMPLE OF TWO-WAY COMMUNICATION SYSTEM

• The two-way communication devices are part of the emergency fire alarm system. The ANSI Commentary for 708.1 does indicate that the system is required to meet the general requirement for operable parts in Section 309.

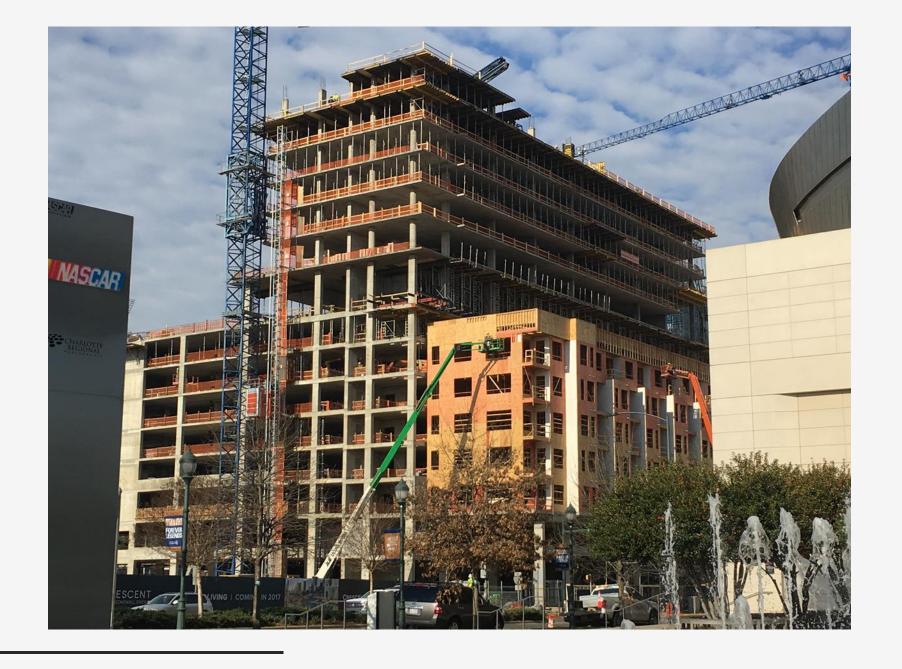
#### 708.1 General. Accessible two-way communication systems shall comply with Section 708.

- The authority having jurisdiction specifies where these systems are required (e.g., areas of refuge), however, when systems are provided voluntarily (e.g., security entrances, closed circuit entry systems) the systems should still comply. In addition, the system must also meet the general requirement for operable parts in Section 309.
- Please note that the graphic example of a Two-Way Communication System, as indicated in the ANSI Commentary is button-activated.
- I did verify this situation with Dan Austin, our Chief Fire Protection Code Consultant. He agreed that activation of the panel is required to be done in a manner that is operable by all potential users. Laurel Wright, NCDOI

Q: What type of construction is required for stairs through a podium vs. stairs on a podium?



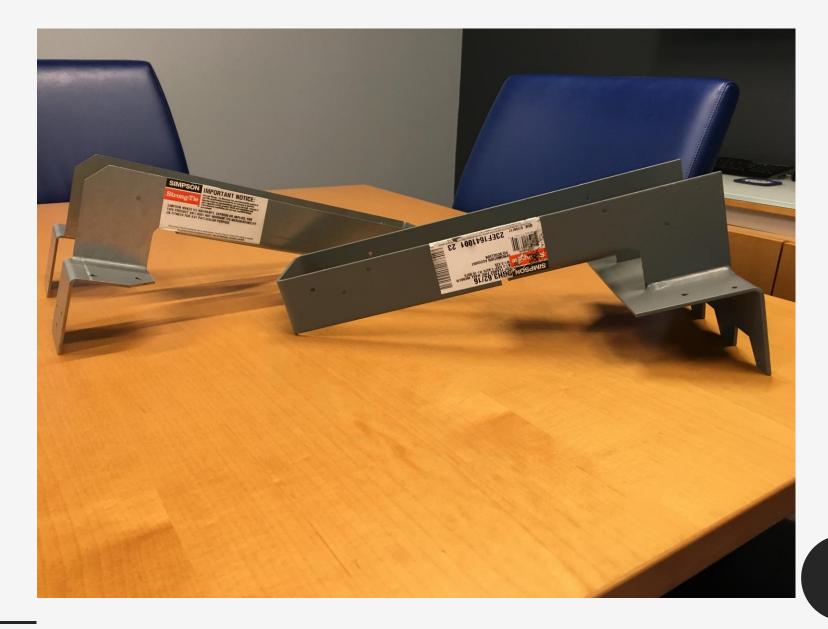
**A:** Stairs through a podium must be non-combustible, Stairs on a podium must meet construction type of building above podium



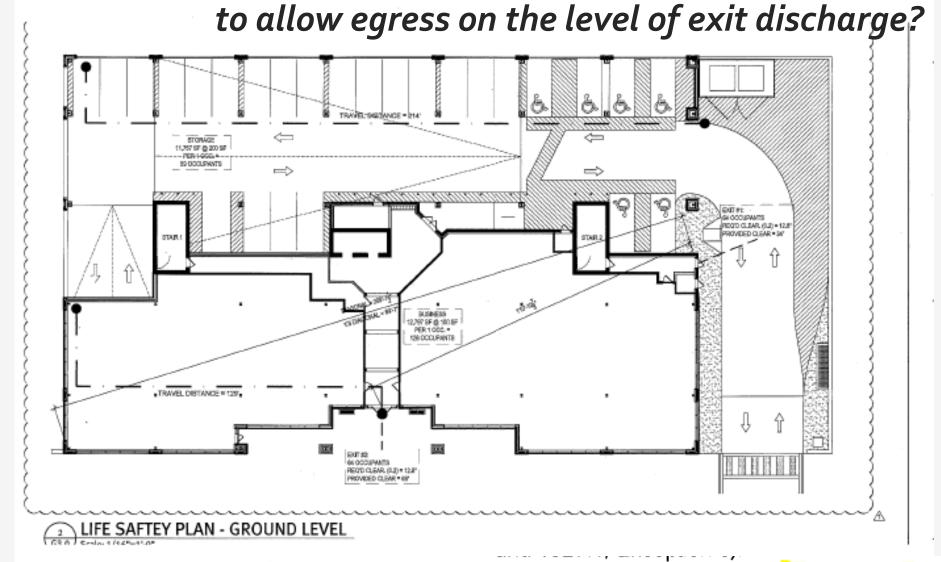
Q: What is the difference between furred walls and set out construction?



New Simpson hangers for Type III construction



#### Q: Can an Exit Passageway use the exceptions to Section 1027.1



While Exceptions 1 and 2 could be applicable for exit passageways and exit ramps, most of the real-life application of the exceptions is for exit stairways. This

Q: Can we disapprove an Engineer's letter?

Yes, per County Attorney IF:

- 1. It contains information that we believe or know to be inaccurate or false
- 2. It does not say, "this meets code." Even if it says it meets acceptable engineering practice, that doesn't equate to code compliance.

# QUESTIONS FROM THE FLOOR

# Training Topic:

# CS3708 Lateral Resistance and Design, Trina Agnello, PE